

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-28. (Canceled)

29. (Currently Amended) A laser welding apparatus comprising a laser head, plasma suppression means, and gas extraction means in ~~which~~which:

the laser head focuses a laser beam upon a component to be welded, at a laser beam impingement point,

the laser welding apparatus is adapted to move the laser beam relative to the workpiece in a welding direction,

the plasma suppression means is positioned behind the laser head, relative to the welding direction, and is arranged to impinge a jet of gas on the component in the welding direction, at an angle between about 38° and about 52° to the component surface, flowing towards the laser beam impingement point, at a distance of at least 1 mm from the laser beam axis, such that the gas is deflected across the laser beam,

and the gas is extracted by the extraction means located in front of the laser head, relative to the welding direction, and adjacent the laser beam, diametrically opposite the plasma suppression means.

30. (Previously Presented) A laser welding apparatus as claimed in Claim 29 wherein the laser welding apparatus comprises a laser head to focus the laser beam on the laser beam impingement point, and there is provided a nozzle adjacent the laser head that, in use, provides a jet of high velocity gas over the laser head.

31-32. (Canceled)

33. (Previously Presented) A laser welding apparatus as claimed in Claim 29 wherein the plasma suppression means is adapted to supply gas to impinge the component at an angle of about 45°.

34. (Previously Presented) A laser welding apparatus as claimed in Claim 29 wherein the plasma suppression means is adapted to supply gas at a rate of between about 10 and 18 litres per minute.

35. (Previously Presented) A laser welding apparatus as claimed in Claim 34 wherein the plasma suppression means is adapted to supply gas at a rate of about 14 litres per minute.

36. (Previously Presented) A laser welding apparatus as claimed in Claim 29 wherein the plasma suppression means comprises tubular supply means.

37. (Previously Presented) A laser welding apparatus as claimed in Claim 36 wherein the inner diameter of the tubular supply means is between about 6 mm and about 10 mm.

38. (Previously Presented) A laser welding apparatus as claimed in Claim 29 wherein the gas supplied by the plasma suppression means is an inert gas.

39. (Previously Presented) A laser welding apparatus as claimed in Claim 29 wherein the plasma suppression means is adapted to supply gas to impinge the component at a distance of between about 1 mm and about 5 mm from the laser beam.

40. (Previously Presented) A laser welding apparatus as claimed in Claim 39 wherein the plasma suppression means is adapted to supply gas to impinge the component at a distance of about 4 mm from the laser beam.

41. (Previously Presented) A laser welding apparatus as claimed in Claim 29 wherein the plasma suppression means is arranged such that the gas exits the suppression means at a distance from the component surface of between about 2 mm and about 5 mm.

42. (Previously Presented) A laser welding apparatus as claimed in Claim 41 wherein the plasma suppression means is arranged such that the gas exits the suppression means at a distance from the component surface of about 2 mm.

43. (Previously Presented) A laser welding apparatus as claimed in claim 30 wherein the nozzle is a spray head nozzle.

44. (Currently Amended) A laser welding apparatus as claimed in Claim 30 wherein the high velocity gas exits the ~~secondary supply means nozzle~~ at, at least, 30 m/s.

45. (Previously Presented) A laser welding apparatus as claimed in Claim 30 wherein the exit nozzle comprises a row of small tubular outlets.

46. (Previously Presented) A laser welding apparatus as claimed in Claim 29 wherein the gas extraction means lies between about 2 mm and about 5 mm from the surface of the component.

47. (Currently Amended) A method of laser welding a component comprising the steps of:

focusing a laser beam via a cover slide onto the component to generate a ~~weld pool,~~ weld pool;

moving the component relative to the laser beam such that the laser beam impingement point moves in a welding ~~direction,~~ direction;

[and] using plasma suppression means to direct plasma suppression gas from behind the laser beam, relative to the welding direction, to impinge the component adjacent the laser beam impingement point at an angle of between 30° and 60° to the component surface, at a distance from the laser beam of at least 1 mm,

wherein the plasma suppression gas impinges the component surface adjacent the weld pool at a point that lies behind the laser impingement point in the welding

direction such that the plasma suppression gas is deflected across the laser ~~beam and beam;~~
and

_____ extracted extracting the plasma suppression gas via gas extraction means
provided in front of the laser beam, relative to the welding direction, and adjacent the laser
beam, diametrically opposite the plasma suppression means.

48. (Canceled)